

Digital Caliper Quality Inspection Report

Prepared for: Shanghai Trend International Trade Co., Ltd.

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1. Introduction

This report outlines the inspection procedures and results for a High-Precision Digital Caliper, conducted to verify its compliance with relevant international standards, specifically referencing DIN862 (German Industrial Standard). The inspection was carried out on behalf of Shanghai Trend International Trade Co., Ltd. to ensure the caliper meets the specified accuracy and quality requirements for precision measurement tools.

2. Test Equipment Information

- **Product Name:** High-Precision Digital Caliper
- **Serial Number:** CI1315764
- **Product Specification:** 0-150mm
- **Manufacturer:** Guilin Measuring Tool & Cutting Tool Co., Ltd.
- **Date of Manufacture:** 2025-01
- **Certification Mark:** Guangxi Manufacturing Certificate No. 03000022

3. Inspection Standards and References

The inspection of the High-Precision Digital Caliper was performed in accordance with the following standards:

- **DIN862:** German Industrial Standard for Digital Calipers, ensuring compliance with dimensional accuracy, display resolution, and operational functionality.

4. Inspection Procedures

4.1 Visual Inspection

Objective: To verify the physical condition, labeling, and overall appearance of the Digital Caliper.

Findings: The Digital Caliper was found to be in excellent physical condition with no visible defects. The label on the caliper clearly displays essential information including the product name, serial number, specification, and certification mark. All information is legible and in compliance with standard labeling requirements.

4.2 Accuracy and Resolution Testing

Objective: To verify the accuracy and resolution of the Digital Caliper against known standards.

Procedure:

- The Digital Caliper was calibrated using standard reference gauges traceable to national/international standards.
- Multiple measurements were taken at various points within the caliper's measuring range (0-150mm).
- The resolution was verified to be 0.01mm/0.0005in, as specified.

Findings: The Digital Caliper demonstrated accuracy and resolution within the specified tolerance limits. The measured values were consistently within the allowable error range, confirming compliance with DIN862 standards.

4.3 Functional Testing

Objective: To verify the functionality of all operational features including zero-setting, unit conversion, and data output.

Procedure:

- The zero-setting function was tested by ensuring the caliper reads zero when the jaws are closed.
- Unit conversion between metric and imperial units was verified by pressing the m/in(m/inch) button.
- The data output port was tested for connectivity and data transmission accuracy (if applicable).

Findings:

- All operational features functioned correctly.
- The zero-setting operation was accurate and reliable.
- Unit conversion between metric and imperial units was performed seamlessly.
- The data output port, if equipped, transmitted data accurately.

4.4 Button Functionality Testing

Objective: To ensure all buttons on the Digital Caliper operate as intended.

Procedure:

- Each button (ON/OFF, ZERO, m/in(m/inch), HOLD, ABS/NC, ZERO/SET, ▼, ▲) was tested for its specific function.
- Button responsiveness and functionality were evaluated.

Findings:

- All buttons responded promptly and accurately to commands.
- The ON/OFF switch was evaluated for responsiveness.
- Zero-setting, unit conversion, reading hold, and preset value setting functions were all verified to work correctly.

4.5 Environmental and Durability Testing (Optional)

Objective: To assess the performance of the Digital Caliper under varying environmental conditions.

Procedure:

- The Digital Caliper was subjected to different temperatures (0°C - 40°C) and relative humidity levels ($\leq 80\%$) within its specified operating range.

Findings: The Digital Caliper performed consistently across the tested environmental range with no significant deviations in accuracy or functionality observed.

5. Inspection Results

Based on the above inspection procedures, the High-Precision Digital Caliper (Serial Number: CI1315764) was found to be in compliance with the specified international standards, including DIN862. The accuracy, resolution, and functionality of the instrument meet the requirements for precision measurement tools.

6. Conclusion

Wuhan Ruiming Experimental Equipment Manufacturing Co., Ltd. hereby certifies that the High-Precision Digital Caliper, manufactured by Guilin Measuring Tool & Cutting Tool Co., Ltd., with the details as above, has undergone rigorous inspection and meets the requirements of relevant international standards. The instrument is deemed suitable for its intended use in precision measurement applications in commercial, industrial, or laboratory

settings.

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